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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/561,385

03/26/2007

Karl-Ernst Hensger

HM-680PCT

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40570

7590

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EXAMINER

YEE, DEBORAH

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

01/26/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/561,385	Applicant(s) HENSGER ET AL.	
	Examiner Deborah Yee	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 to 4 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese patent 09-241790 (hereafter "JP-790") alone or in view of US Patent 3,533,261(hereafter "Hollander") or US Patent 3,905,216 (hereafter "Hinrichsen") for the reasons set forth in the previous office action dated May 14, 2009.

Response to Arguments

3. Applicant's arguments filed November 20, 2009 have been fully considered but they are not persuasive.

4. Applicant argued that JP'790 is directed to steel composition without Cr and does not teach adjusting the ferrite content within the matrix to between 70 and 95% whereas present invention steel requires 0.3 to 1.2%Cr and microstructure with 70 to 95% ferrite. In addition, JP'790 is silent regarding the 2-stage controlled cooling within the limits defined in section a) of claim 1.

5. In response to argument, it is the Examiner's position that JP'790 in claim 3 teaches steel composition containing 0.01 to 0.30% Cr which overlaps with claimed Cr range of 0.3 to 1.2%Cr. In addition claim 3 of JP'790 teaches steel microstructure comprising ferrite and martensite, whereby ferrite is not less than 70% and the

Art Unit: 1793

remainder martensite, and therefore would suggest inventive microstructure comprising ferrite at 70 to 95% and remainder martensite.

6. In regard to method, the English abstract of JP-790 teaches a 2-stage controlled cooling which is essentially the same as recited by the claims with overlap in temperature and cooling rate ranges. The prior art method produces hot-rolled steel plate by means of continuous hot rolling such that finish rolling temperature is at 820 to 900°C, and the resultant steel is subjected to a two-stage controlled cooling comprising the steps of cooling from finish rolling temperature down to 760 to 600°C at cooling rate at $\geq 30^\circ\text{C}/\text{sec}$, isothermal holding for 3- 15 seconds, and then cooling down to $\leq 200^\circ\text{C}$ at $\geq 30^\circ\text{C}/\text{sec}$. Similarly, present invention produces hot rolled steel plate by means of continuous hot rolling such that finish rolling temperature is $>A_{r3}-100\text{K}$ to $<A_3-50\text{K}$, wherein the cooling rate in both cooling stages is $V = 30 - 150\text{K}/\text{sec}$, the first cooling stage is carried out until the cooling curve enters the ferrite range, isothermally holding T constant for holding time of 5 second until the second cooling stage.

7. Applicant argued that Hinrichsen and Hollander to do not teach the 2-stage cooling. It is the Examiner's position that Hinrichsen and Hollander are merely secondary references to show that it is conventional practice in the metallurgical art to adjust cooling rate according to number and distribution of sprayers and water-adjusting valves; and such adjustment would be obvious to apply to the cooling method of JP'790.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah Yee whose telephone number is 571-272-1253. The examiner can normally be reached on monday-friday 6:00 am-2:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1793

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Deborah Yee/
Primary Examiner
Art Unit 1793

/DY/